SMM C/P   1988 DOY290   283 +/-   0 degrees

height = h + velocity*time   # data points =   3

Top of Front Loop

S=SMM   M=MK3   P=PMON

SMM & MK3 - CORRECTED TIMES

height [solar radii]

6.00
5.50
5.00
4.50
4.00
3.50
3.00
2.50
2.00
1.50
1.00

22:00   22:30   23:00   23:30   0:00
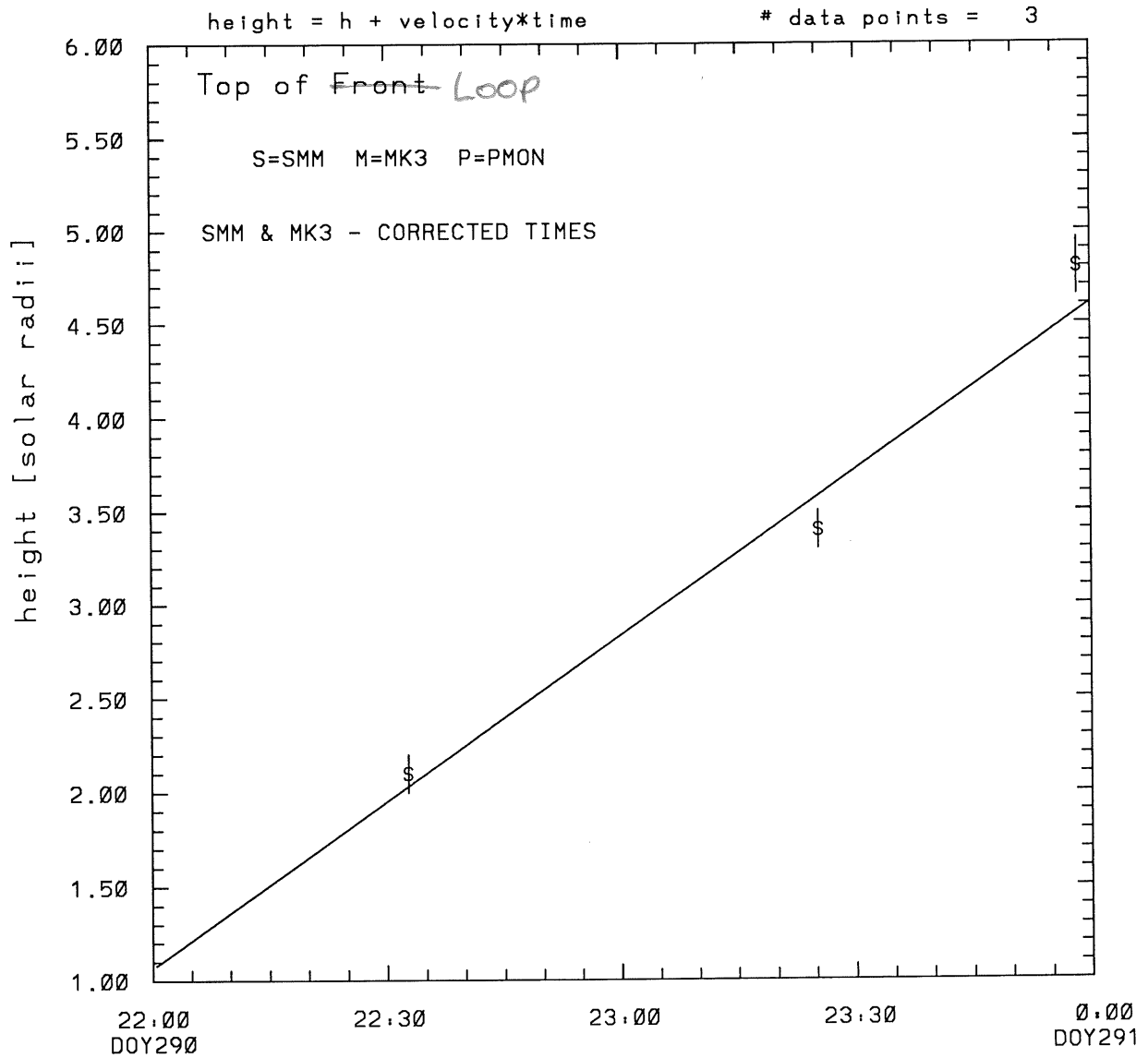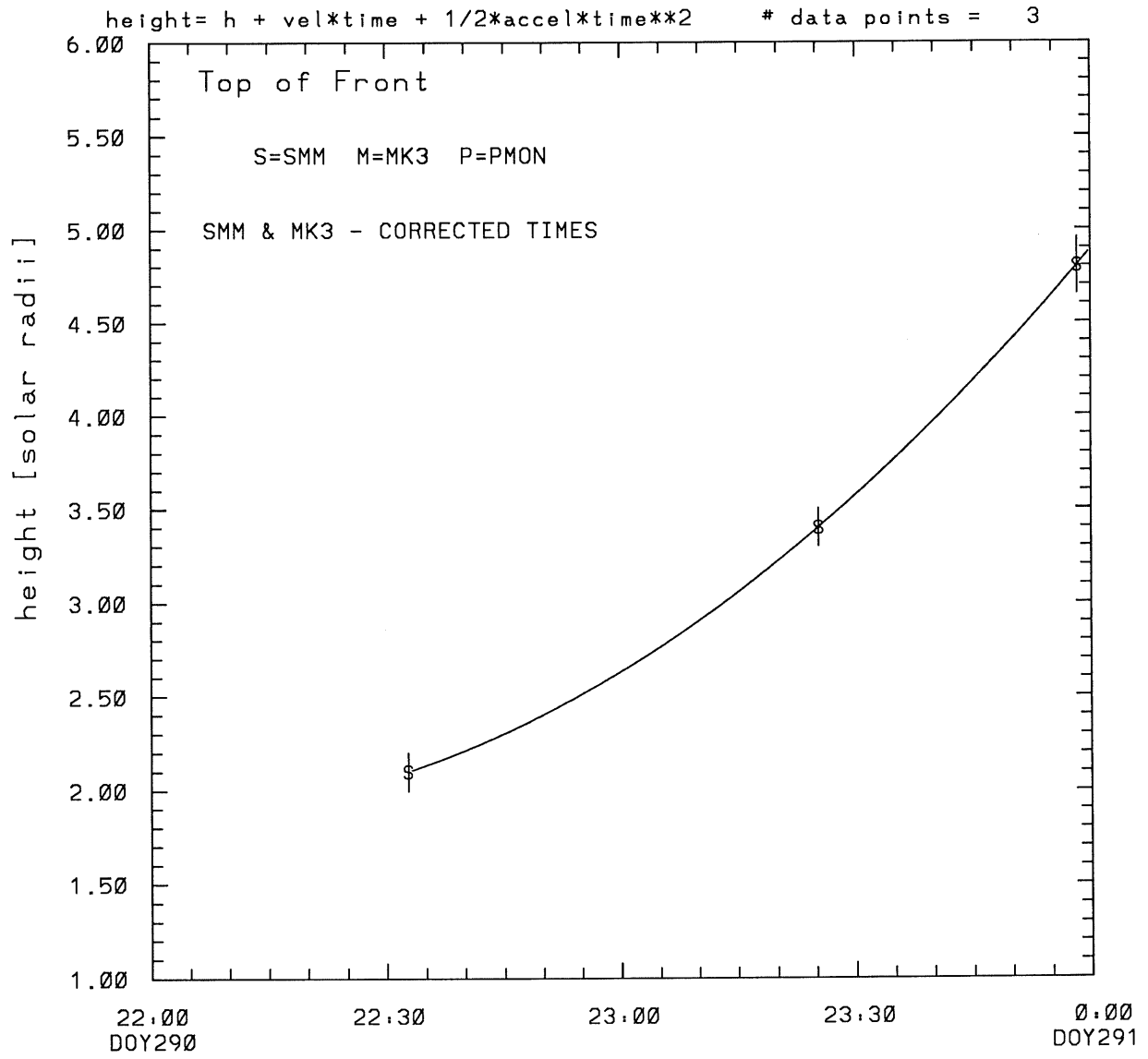DOY290   DOY291

tstart=DOY290 21:58 +/-   0.3 [min.]
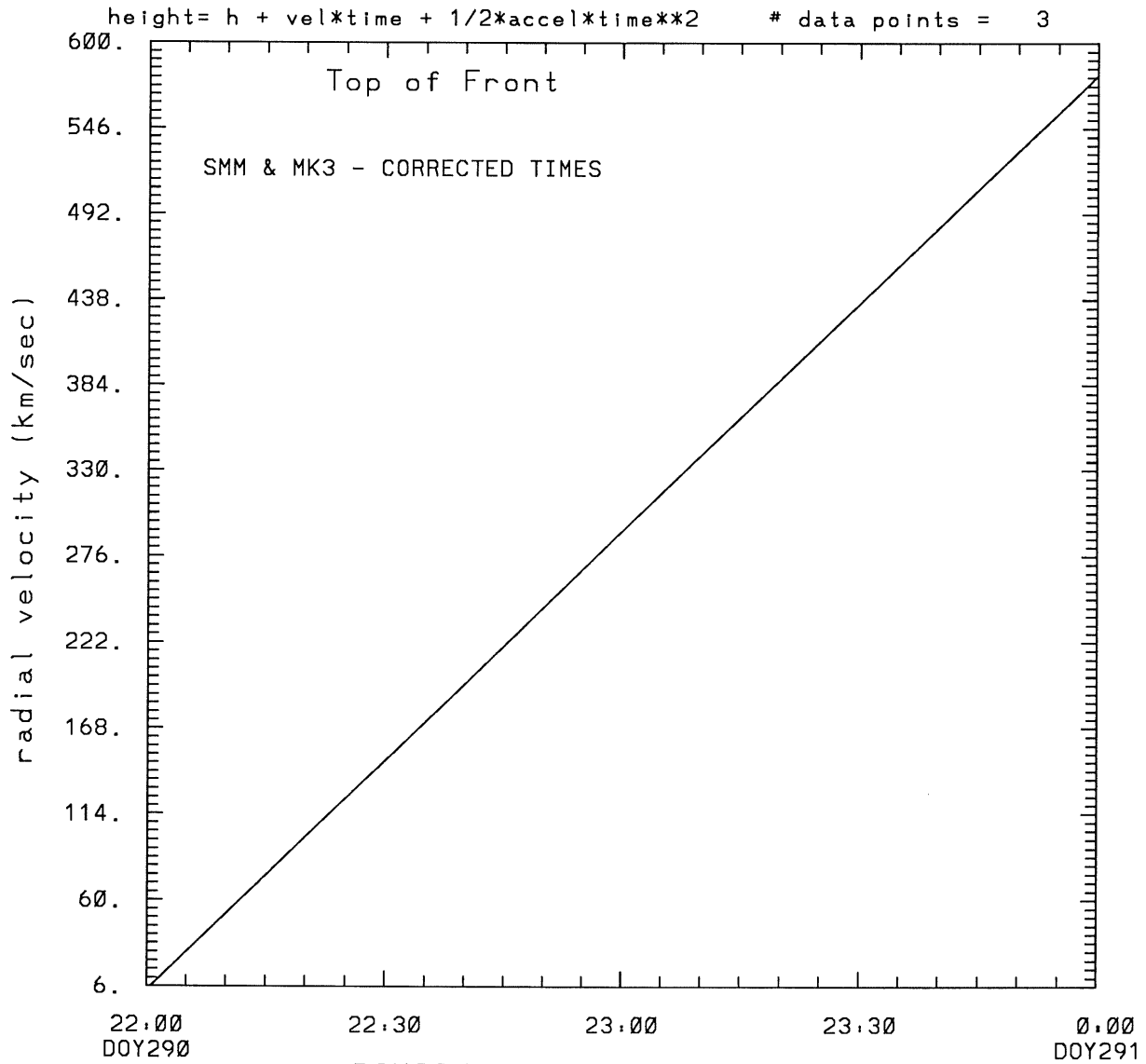radial velocity=   342. +/-   40. [km/sec]

SMM C/P 1988 DOY290 283 +/- 0 degrees

height= h + vel*time + 1/2*accel*time**2   # data points =   3

Top of Front

S=SMM   M=MK3   P=PMON

SMM & MK3 - CORRECTED TIMES

height [solar radii]

tstart=DOY290 22: 0   from derivative=0
Event begins at   1.87 Solar Radii
radial acceleration= 0.0799 +/- 0.0000 [km/sec**2]

SMM C/P   1988 DOY29Ø   283 +/-   Ø degrees

height= h + vel*time + 1/2*accel*time**2   # data points =   3

Top of Front

SMM & MK3 - CORRECTED TIMES

radial velocity (km/sec)

600.
546.
492.
438.
384.
330.
276.
222.
168.
114.
60.
6.

22:00   22:30   23:00   23:30   0:00
DOY29Ø   DOY291

tstart=DOY29Ø 22: Ø   from derivative=Ø
Event begins at   1.87 Solar Radii
radial acceleration=Ø.799E-Ø1 km/sec**2

```
********************
 This is a 1 order run
********************

*******
 INPUT:
*******

                         error in        error in
year doy    time    radii  radius    angle  angle    datatype
1988 290 22:32:43   2.10 +/- 0.10   283.0 +/-  0.5      SMM
1988 290 23:25:16   3.40 +/- 0.10   283.0 +/-  1.0      SMM
1988 290 23:58:16   4.80 +/- 0.15   283.0 +/-  1.0      SMM


*****************************************
 Structure being measured:
Top of Front     Loo l
*****************************************


********
 OUTPUT:
********


START TIME:

Event began at t = 0 + -0.226E+01 +/-  0.324E+00 [minutes]
In more convenient units:
Event began at DOY 290 21:58 +/-  0.324E+00 [minutes]


Origin defined at DOY290 22: 0

RADIAL INFORMATION:

RADIAL VELOCITY =   342. +/-    40. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

 c(1) =   0.107E+01 +/-   0.268E+00 [solar radii]
 c(2) =   0.295E-01 +/-   0.348E-02 [radii/min]
 c(2) =   0.342E+03 +/-   0.404E+02 [km/sec]
 c(3) =   0.000E+00 +/-   0.000E+00 [radii/min**2]
 c(3) =   0.000E+00 +/-   0.000E+00 [km/sec**2]

 The computed ERRORS in coefficients [BEVINGTON] are:

            error in c(1)= 0.44376E+00 [radii] see Bevington pg. 114
            error in c(2)= 0.51438E-02 [radii/min] see Bevington pg. 114
ANGULAR INFORMATION:

ANGULAR VELOCITY =  0.0000E+00 +/-   0.0000E+00[radians/sec]

The computed ANGULAR coefficients and errors FROM NLLST2 are:
```

a(1) = 283. +/-   0. [degrees]
a(2) =   0.000E+00 +/-   0.000E+00 [degrees/min]
a(2) =   0.000E+00 +/-   0.000E+00 [rad/sec]
a(3) =   0.000E+00 +/-   0.000E+00 [degrees/min**2]
a(3) =   0.000E+00 +/-   0.000E+00 [rad/sec**2]

THE TANGENTIAL AND TOTAL VELOCITIES AT EACH DATA POINT ARE:
The TANGENTIAL velocity at 22:32 =   0. km/sec
The TOTAL velocity at 22:32 = 342. km/sec

The TANGENTIAL velocity at 23:25 =   0. km/sec
The TOTAL velocity at 23:25 = 342. km/sec

The TANGENTIAL velocity at 23:58 =   0. km/sec
The TOTAL velocity at 23:58 = 342. km/sec

****
 The following info is for estimating goodness of the fit
****

Fit is ok [ier=1]

Standard Deviation in the height = 1.35
Standard Deviation in start time measurement =   0.352E+02
Error in time =   0.10650E+02 using best fit method
See Taylor Error Analysis [Univ of Colorado] pg.78

Value of reduced Chi Squared returned from nllst2 = 0.395E-01
Reduced Chi Squared = 0.254E+00
Chi Squared = 0.254E+00
The probability for exceeding chi square = 0.843E+00

The correlation coefficient =   0.988E+00
The probability that no LINEAR correlation exists between the variables =   0.9712E-01
SEE BEVINGTON "Data Reduction and Error Analysis" [1969]

```
********************
  This is a 2 order run
********************


*******
 INPUT:
*******
```

			error in		error in		
year doy	time	radii	radius		angle	angle	datatype
1988 290	22:32:43	2.10 +/- 0.10		283.0 +/- 0.5		SMM
1988 290	23:25:16	3.40 +/- 0.10		283.0 +/- 1.0		SMM
1988 290	23:58:16	4.80 +/- 0.15		283.0 +/- 1.0		SMM

```
*****************************************
 Structure being measured:
Top of Front
*****************************************


********
 OUTPUT:
********


START TIME:


 tstart=DOY290 22: 0 from derivative = 0
Event begins at   1.87 Solar Radii
 Origin defined at DOY290 22: 0


RADIAL INFORMATION:


RADIAL ACCELERATION =  0.799E-01 +/-  0.658E-06 km/sec**2


The computed RADIAL coefficients and errors FROM NLLST2 are:


 c(1) =   0.187E+01 +/-   0.729E-05 [solar radii]
 c(2) =   0.348E-03 +/-   0.243E-06 [radii/min]
 c(2) =   0.403E+01 +/-   0.282E-02 [km/sec]
 c(3) =   0.207E-03 +/-   0.170E-08 [radii/min**2]
 c(3) =   0.799E-01 +/-   0.658E-06 [km/sec**2]


ANGULAR INFORMATION:


ANGULAR ACCELERATION=  0.0000E+00 +/-   0.0000E+00[radians/sec**2]


The computed ANGULAR coefficients and errors FROM NLLST2 are:


 a(1) = 283. +/-   0. [degrees]
 a(2) =   0.000E+00 +/-   0.000E+00 [degrees/min]
 a(2) =   0.000E+00 +/-   0.000E+00 [rad/sec]
 a(3) =   0.000E+00 +/-   0.000E+00 [degrees/min**2]
 a(3) =   0.000E+00 +/-   0.000E+00 [rad/sec**2]
```

THE TANGENTIAL AND TOTAL VELOCITIES AT EACH DATA POINT ARE:
The TANGENTIAL velocity at 22:32 =   0. km/sec
The TOTAL velocity at 22:32 = 161. km/sec

The TANGENTIAL velocity at 23:25 =   0. km/sec
The TOTAL velocity at 23:25 = 413. km/sec

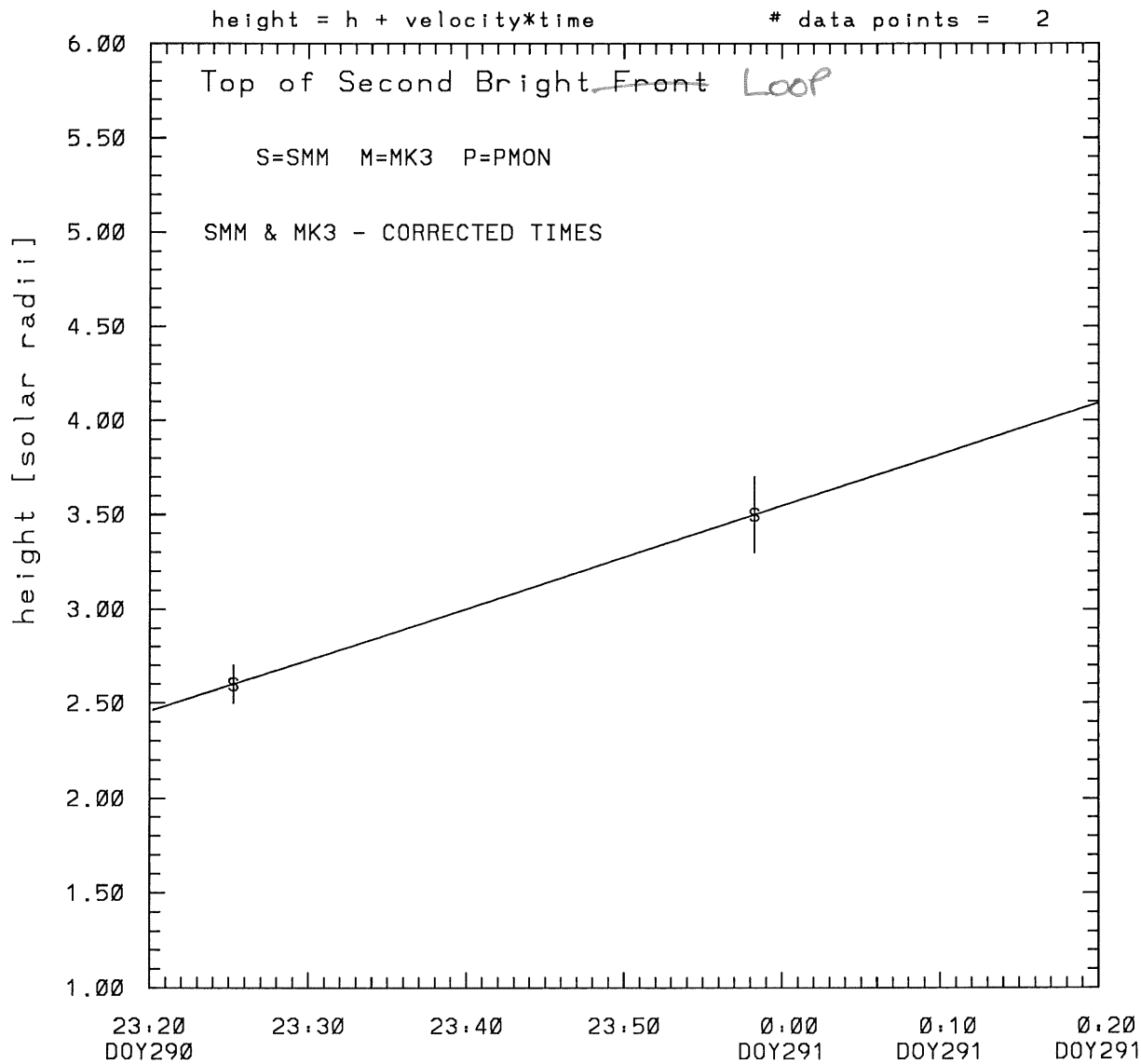The TANGENTIAL velocity at 23:58 =   0. km/sec
The TOTAL velocity at 23:58 = 571. km/sec

****
 The following info is for estimating goodness of the fit
****

Number data points = number of coefficients. No error analysis is possible.

Correlation coefficient is not computable!

SMM C/P   1988 DOY290   283 +/−   0 degrees

height = h + velocity*time   # data points =   2

Top of Second Bright Front Loop

S=SMM   M=MK3   P=PMON

SMM & MK3 − CORRECTED TIMES

height [solar radii]

6.00
5.50
5.00
4.50
4.00
3.50
3.00
2.50
2.00
1.50
1.00

23:20   23:30   23:40   23:50   0:00   0:10   0:20
DOY290   DOY291 DOY291 DOY291

tstart=DOY290 22:27 +/−   0.0 [min.]
radial velocity= 316. +/−   0. [km/sec]

```
********************
 This is a 1 order run
********************


*******
 INPUT:
*******


                           error in        error in
year doy    time    radii  radius    angle  angle   datatype
1988 290  23:25:16  2.60 +/- 0.10   283.0 +/-  1.0      SMM
1988 290  23:58:16  3.50 +/- 0.20   283.0 +/-  1.0      SMM


*****************************************
 Structure being measured:
Top of Second Bright Front —Loop
*****************************************


********
 OUTPUT:
********


START TIME:


Event began at t = 0 + -0.534E+02 +/-  0.000E+00 [minutes]
In more convenient units:
Event began at DOY 290 22:27 +/-  0.000E+00 [minutes]


Origin defined at DOY290 23:20


RADIAL INFORMATION:


RADIAL VELOCITY =   316. +/-    0. km/sec


The computed RADIAL coefficients and errors FROM NLLST2 are:


c(1) =   0.246E+01 +/-   0.321E-06 [solar radii]
c(2) =   0.273E-01 +/-   0.181E-07 [radii/min]
c(2) =   0.316E+03 +/-   0.210E-03 [km/sec]
c(3) =   0.000E+00 +/-   0.000E+00 [radii/min**2]
c(3) =   0.000E+00 +/-   0.000E+00 [km/sec**2]


ANGULAR INFORMATION:


ANGULAR VELOCITY =  0.0000E+00 +/-   0.0000E+00[radians/sec]


The computed ANGULAR coefficients and errors FROM NLLST2 are:


a(1) = 283. +/-   0. [degrees]
a(2) =   0.000E+00 +/-   0.000E+00 [degrees/min]
a(2) =   0.000E+00 +/-   0.000E+00 [rad/sec]
a(3) =   0.000E+00 +/-   0.000E+00 [degrees/min**2]
a(3) =   0.000E+00 +/-   0.000E+00 [rad/sec**2]
```

THE TANGENTIAL AND TOTAL VELOCITIES AT EACH DATA POINT ARE:
The TANGENTIAL velocity at 23:25 =   0. km/sec
The TOTAL velocity at 23:25 = 316. km/sec

The TANGENTIAL velocity at 23:58 =   0. km/sec
The TOTAL velocity at 23:58 = 316. km/sec

****
 The following info is for estimating goodness of the fit
****

 Number data points = number of coefficients. No error analysis is possible.

 Correlation coefficient is not computable!